

Interview Summary	Application No. 09/178,594	Applicant(s) ISHIGURO ET AL.	
	Examiner Mark L. Berch	Art Unit 1624	

All participants (applicant, applicant's representative, PTO personnel):

(1) Mark L. Berch. (3) _____.

(2) Bill Player. (4) _____.

Date of Interview: 15 October 2004.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☐ No.
If Yes, brief description: _____.

Claim(s) discussed: 20.

Identification of prior art discussed: _____.


Agreement with respect to the claims f) ☒ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Proposed faxed claim language discussed. Correct spelling is "unsubstituted". Page 13 does not support the silyl substituent on the heterocyclic ester choice; applicants plan to remove that plus the word "and" to resolve this matter.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.


Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

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Attachment to
Interview
Summary Form

FACSIMILE TRANSMISSION TO THE UNITED STATES PATENT AND TRADEMARK OFFICE

UNOFFICIAL

Date: October 13, 2004

From: William E. Player (attorney of record)

To: EXAMINER MARK L. BERCH

Fax No. 571-273-0663

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In re application of ISHIGURO et al.

Application No. 09/178,594

Art Unit 1624

Filed October 26, 1998

Examiner Mark L. Berch

For PROCESS FOR SYNTHESIZING 4-SUBSTITUTED AZETIDINONE DERIVATIVES

Attorney Docket No. P66641US2

MESSAGE

Attached, hereto, are the proposed amendments to claims 20, 22, and 23.

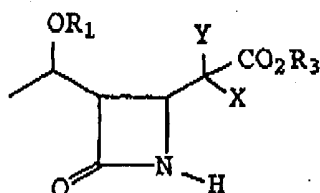
The amended claims incorporate the changes made in the amendment filed September 20, 2004 – i.e., ~~struck out text~~ is deleted, and underlined text is no longer underlined.

The change "tri-substituted silyl aromatic heterocyclic carboxyl ester" in the "CO₂R₃" definition in claim 20 finds support in the specification at page 13, lines 19 and 37-38. Inserting "substituted or undubstituted" in the "CO₂R₃" definition finds the same support identified in the September 20 amendment for "which may be substituted" – specification page 14, lines 35-36.

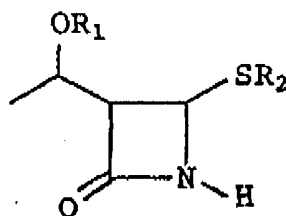
Thank you for the kind cooperation and assistance.

THIS COMMUNICATION IS INTENDED ONLY FOR THE USE OF THE ADDRESSEE AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED AND CONFIDENTIAL. IF YOU ARE NOT THE INTENDED RECIPIENT, OR THE EMPLOYEE OR AGENT RESPONSIBLE FOR DELIVERING THIS COMMUNICATION TO THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY DISSEMINATION, DISTRIBUTION, COPYING, OR OTHER USE OF THIS COMMUNICATION IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS COMMUNICATION IN ERROR, PLEASE NOTIFY US IMMEDIATELY BY TELEPHONE. THANK YOU.

Claim 20 (currently amended): A process for synthesizing a 4-substituted azetidinone derivative representative by the formula [3]:

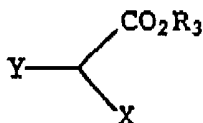


which comprises reacting an azetidinone derivative represented by the formula [1]:



wherein OR₁ is a protected hydroxyl group; R₂ is a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkenyl group or a substituted or unsubstituted aromatic group, in the presence of:

- (a) a copper compound selected from the group consisting of copper oxides, copper halides, salts of copper with aliphatic and aromatic carboxylic acids, salts of copper with mineral acids and complexes of cuprous halides, or
- (b) a mixture of zinc with at least one of said copper compounds with an ester compound represented by the formula [2]:



wherein CO_2R_3 is an esterified carboxyl group, selected from the group consisting of, substituted or unsubstituted, tri-substituted silyl carboxyl ester, tri-substituted silyl lower-alkyl carboxyl ester, and tri-substituted silyl aromatic heterocyclic carboxyl ester, lower alkyl carboxyl ester, lower alkenyl carboxyl ester, lower alkynyl carboxyl ester, aryl lower-alkyl carboxyl ester, aryl carboxyl ester, and phthalidyl carboxyl ester ~~which may be substituted~~;

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wherein X and Y are the same or different and represent individually a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkenyl group, a substituted or unsubstituted aralkyl group, a substituted or unsubstituted aryl group, a substituted or unsubstituted alkylthio group, a substituted or unsubstituted alkenylthio group, a substituted or unsubstituted aralkylthio group, a substituted or unsubstituted arylthio group, a substituted or unsubstituted alkyloxy group, a substituted or unsubstituted alkenyloxy group, a substituted or unsubstituted aralkyloxy group, a substituted or unsubstituted aryloxy group, a substituted or unsubstituted silyloxy group, a substituted or unsubstituted heterocyclic group, a substituted or unsubstituted heterocyclic-thio group, a substituted or unsubstituted heterocyclic-oxy group, a substituted or unsubstituted acyl group, an alkyloxycarbonyl group, an alkenyloxycarbonyl group, an aralkyloxycarbonyl group, an aryloxycarbonyl group, an alkylthiocarbonyl group, an alkenylthiocarbonyl group, an aralkylthiocarbonyl group, an arylthiocarbonyl group, a substituted or unsubstituted aminocarbonyl group, a substituted or unsubstituted amino group, a hydrogen atom or a halogen atom, or, when taken together with the carbon to which they are attached, form a substituted or unsubstituted cycloalkan-2-on-1-yl group;

wherein any substituents on R₂ are selected from the group consisting of halogen, lower alkyl, monocyclic or polycyclic alkyl, lower alkoxy, carboxyl, amino, nitro, cyano, hydroxy, aryl of 6 to 10 carbon atoms and aralkyl groups of 7 to 24 carbon atoms;

wherein any substituents on X and Y are selected from the group consisting of

halogen, formyl, nitro, cyano, hydroxyl, amino, lower alkyl, monocyclic and polycyclic alkyl, lower alkenyl, aryl of 6 to 10 carbon atoms, aralkyl of 7 to 24 carbon atoms, alkylthio, alkenylthio, aralkylthio, arylthio, alkyloxy, alkenyloxy, aralkyloxy, aryloxy, alkylsulfinyl, alkylsulfonyl, aralkylsulfinyl, aralkylsulfonyl, arylsulfinyl, arylsulfonyl, carbamoyl, carbamoyloxy, imino-lower-alkyl, imino-lower-alkylamino, acyloxy, silyloxy, heterocyclic, heterocyclic-thio, heterocyclic-oxy, acyl and

except when X and Y are acyl, carboxyl, alkyloxycarbonyl, alkenyloxycarbonyl, aralkyloxycarbonyl, aryloxycarbonyl, alkylthiocarbonyl, alkenylthiocarbonyl, aralkylthiocarbonyl, arylthiocarbonyl and a substituted or unsubstituted aminocarbonyl group.

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Claim 21 (previously presented): The process of claim 20 for synthesizing a 4-substituted azetidinone derivative represented by the formula [3], wherein said process further comprises the steps of treating an ester compound represented by the formula [2] with an alkali metal hydride to convert to the corresponding metal enolate, followed by reaction with an azetidinone derivative represented by the formula [1] in the presence of a copper compound.

Claim 22 (currently amended): The process of claim 20 wherein the ester compound represented by the formula [2] is a halogenated acetic acid ester, a malonic acid **ester diester**, a 2-alkylmalonic acid **ester diester**, a 2-halogenated malonic acid **ester diester**, a 2-alkyl-acylacetic acid ester or a cycloalkan-2-on-1-carboxylic acid ester.

Claim 23 (currently amended): The process of claim 20 wherein the ester compound represented by the formula [2] is a bromoacetic acid ester, a malonic acid **ester diester**, a 2-methylmalonic acid **ester diester**, a 2-fluoromalonic acid **ester diester**, a 2-methylacetoacetic acid ester or a cyclohexan-2-on-1-carboxylic acid ester.

Claim 24 (previously presented): The process of claim 20 wherein the copper compound is a cuprous bromide dimethylsulfide complex.